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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/811,863

03/30/2004

Eytan Cohen

P-6096-US1

3839

49443

7590

01/23/2006

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EXAMINER

MARTIN, LAURA E

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/811,863	<b>Applicant(s)</b> COHEN ET AL.	
	<b>Examiner</b> Laura E. Martin	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/30/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6528557) in view of Martin et al (US 2003/0082633) and Santo et al. (US 5965252).

Lin teaches a microwave radiation curable ink (column 34, lines 21-28), a method of microwave radiation of ink (column 1, lines 43-47), and an ink jet composition for piezo electric drop-on-demand inkjet printing (column 34, lines 36-39) comprising: molecules of material (column 1, lines 14-28) capable of undergoing a polymerization reaction (column 1, lines 43-47) under the influence of said microwave radiation generated heat; a colorant (column 1, line 19); and additives (column 31, line 29+). Lin also teaches a microwave radiation curable ink for piezo electric drop-on-demand inkjet printing according to claims 1 and 8 and where said additives are any one or a combination of wetting agents, dispersants, rheology modifiers, solvents, and defoamers (column 31, lines 29+).

Lin does not teach a microwave radiation absorber, said absorber enhancing absorption of microwave radiation and conversion of said energy into heat wherein said microwave radiation absorber is at least one of carbon black, minerals, polar molecules

such as alcohols, amines, ammonium salts and conductive polymers or a thermal initiator being activated by heat generated by said microwave radiation energy, wherein thermal initiator is at least one of lauroyl peroxide, cumenn peroxide dicumyl peroxide, tert-amyl peroxy-benzoate, dentanedione-peroxide, 1,1'-azobis-cyclohexane carbonitrile.

Martin et al. teaches a microwave radiation absorber, said absorber enhancing absorption of microwave radiation and conversion of said energy into heat wherein said microwave radiation absorber is at least one of carbon black, minerals, polar molecules such as alcohols, amines, ammonium salts and conductive polymers [0010].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the curable ink of Lin with the disclosure of Martin et al. in order to increase the speed of curing ink.

Santo et al. teaches a thermal initiator being activated by heat generated by said microwave radiation energy, wherein thermal initiator is at least one of lauroyl peroxide, cumenn peroxide dicumyl peroxide, tert-amyl peroxy-benzoate, dentanedione-peroxide, 1,1'-azobis-cyclohexane carbonitrile (column 19, lines 3+).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the curable ink of Lin with the disclosure of Santo et al. in order to decrease the curing time of ink.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6528557) in view of Martin et al (US 2003/0082633), Santo et al. (US 5965252), and Chou et al. (US 5322751).

Lin teaches a microwave radiation curable ink (column 34, lines 21-28), a method of microwave radiation of ink (column 1, lines 43-47), and an ink jet composition for piezo electric drop-on-demand inkjet printing (column 34, lines 36-39) comprising: molecules of material (column 1, lines 14-28) capable of undergoing a polymerization reaction (column 1, lines 43-47) under the influence of said microwave radiation generated heat; a colorant (column 1, line 19); and additives (column 31, line 29+).

Lin does not teach a microwave radiation absorber, said absorber enhancing absorption of microwave radiation and conversion of said energy into heat, a thermal initiator being activated by heat generated by said microwave radiation energy, or printing on optically reflective surfaces wherein microwave radiation is not reflected by the substrate.

Martin et al. teaches a microwave radiation absorber, said absorber enhancing absorption of microwave radiation and conversion of said energy into heat [0010].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the curable ink of Lin with the disclosure of Martin et al. in order to increase the speed of curing ink.

Santo et al. teaches a thermal initiator being activated by heat generated by said microwave radiation energy (column 19, lines 3-7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lin with the disclosure of Santo et al. in order to decrease the curing time of ink.

Chou et al. teaches printing on optically reflective surfaces wherein microwave radiation is not reflected by the substrate (column 17, lines 28-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the curable ink of Lin with the disclosure of Chou et al. in order to provide for a higher quality image.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

 1/20/06  
**MANISH S. SHAH**  
**PRIMARY EXAMINER**